



ABSTRACT

A torque responsive actuation device for a drive system as is commonly utilized with snowmobile and like type vehicles. A bearing carrier is connected to a lower half of a split pulley, with the upper pulley half mounting a helix or cam cone that includes a plurality of cam tracks that each receive a cam follower. Movement of the bearing carrier towards the pulley upper half is thereby translated to lower the pulley half to spread the pulley halves apart, opening a V slot therebetween wherein a drive belt is maintained. To provide minimum friction operation and wear the invention employs cam follower bearings as the cam followers and radiuses either the outer surface of rollers of each cam follower bearing or of the cam tracks to be convex and to have an apex that contacts and rolls along a center line of the opposing surface.